The GLONASS situation is, as yet, unresolved and raises serious problems in terms of coordination in the 1610-1616 MHz band with the proposed CDMA systems. Ellipsat is not optimistic that the GLONASS relocation will occur without a concerted effort by the Commission and the LEO MSS applicants and, indeed, by the United States Government in its relations with Russia. The Commission must send a strong message to appropriate government policymakers on the need for GLONASS relocation and the importance of this relocation for future LEO implementation. The Commission must also provide an incentive for all of the systems to work together to move GLONASS below 1610 MHz and to share the burden equally, if necessary until GLONASS is relocated.

The Commission acknowledges the possibility that GLONASS relocation may not be possible by the time that the LEO systems are launched. In the event that GLONASS is not transferred to bands below 1610 MHz before the first MSS satellites are launched, the Commission has proposed a transitional plan for MSS migration into the vacated 1610-1616 MHz band, with MSS licensees initially operating on less than the full amount of their assigned spectrum. Under this approach, CDMA systems would be able to use 7.5 MHz and FDMA/TDMA systems would use 3.3 MHz in the upper portion of the band.[16/]

Ellipsat recommends that the Commission condition licenses on ultimate GLONASS relocation below 1610 MHz (to whatever

---

16/ Notice ¶ 31, n. 59 and n. 64.

frequencies will provide interference-free operation to the LEOs). In addition, the Commission should (1) specify an interim sharing plan along the lines proposed in the Notice; or (2) adopt an orderly and enforceable mechanism for sharing the burden, if GLONASS relocation cannot be accomplished within the relevant time frame. In the latter case, the Commission should identify the principles, such as equity and proportionality (i.e., 1/N where N is the number of applicants who have met all milestones and are ready to launch), which will govern the operation of the mechanism. The Commission will also need to define a "triggering event" which activates the interim plan or mechanism, as the case may be.

Regardless of which option is adopted, the terms should be incorporated as a condition of each license and appropriate mechanisms and assurances employed to ensure that the FDMA/TDMA system will share the burden equitably, by releasing spectrum for CDMA use if necessary. The Commission must also identify other frequency bands for LEO MSS, in the event that the GLONASS issue cannot be successfully resolved.

B. Use of the Spectrum Should Be Restricted to Non-Geostationary Systems

In the Notice, the Commission proposes to require MSS systems licensed in the 1610-1626.5/2483.5-2500 MHz bands to

operate in non-geostationary orbits.[17/] Ellipsat fully supports this eligibility criterion and agrees with the Commission that the band should be limited exclusively to LEO systems. All of the parties agree that coordination between LEOs and GSO MSS will be extremely difficult and could preclude implementation of the LEO systems. Use of non-geostationary orbits is a reasonable restriction that will serve the public interest by facilitating introduction of innovative global communications services.[18/]

1. LEOs Will Provide Innovative Global Services

The Notice and previous filings in this proceeding document the innovative nature of the LEO systems, from a technical and service standpoint. LEO systems will provide cost-effective and high-quality mobile voice and data services to vehicular and hand-held terminals, and rural telephony, in the U.S. and worldwide. LEOs also have the capability of providing RDSS

17/ See Notice at ¶ 22; Proposed Rule 25.143(b)(2)(i).

18/ In 1992, the Commission similarly excluded a proposed LEO satellite system from the GSO MSS band on the grounds that successful coordination of a LEO satellite system with the GSO satellite system is "highly unlikely" and "not feasible." Final Decision on Remand, GEN Docket No. 84-1234, 7 FCC Rcd 266, 273 (1992). Among the reasons cited for dismissal of the LEO applicant in that case was the need for tight coordination in order "to facilitate sharing of the limited spectrum resource."

services.[19/] These service options will supplement mobile and fixed services in the U.S., allowing seamless roaming and interconnection with the PSTN. In the developing world, the LEOs will offer access to a technologically advanced communications infrastructure and the ability, in some countries, to leap-frog stages of network development. The potential social and economic benefits to developing countries are immeasurable.

In addition to a greater range of service options, consumers will benefit from the reduced costs possible with LEO systems in comparison to GSO MSS. LEOs are closer to the Earth, than GSO systems, and therefore require less power. This translates into lower-cost equipment and services. As noted, ELLIPSO™ expects to provide service at a cost comparable to terrestrial cellular (i.e., 50 cents per minute).

LEOs are inherently global in nature and will be capable of providing service to unserved and underserved regions in the U.S. and the developing world. Geostationary satellites, in contrast, are inherently incapable of providing global coverage. The LEO systems will contribute to development of a global information infrastructure and foster international cooperation and participation. In this regard, the LEOs present an unprecedented opportunity for international participation in private global

---

19/ The Commission should make RDSS an additional eligibility criterion. The subject band is allocated for both RDSS and MSS service. The Commission has authority to exclude applicants that do not provide the specified service. See ARINC v. FCC, 928 F.2d 428 (D.C. Cir. 1991).

satellite systems, with the corresponding economic, social and political benefits.[20/]

The LEO systems also provide promising opportunities for U.S. global leadership in satellite-related products and services. The U.S. now has a leadership position in LEO technology which will be maintained through rapid licensing and introduction of LEO services. The LEO systems offer a significant defense conversion opportunity for the U.S. aerospace industry. In addition, the LEOs will create new business opportunities for resellers of satellite-based communications services in the U.S. and worldwide.

2. Other Bands Are Available For GSO MSS

The LEO eligibility criterion is also justified by the availability of other spectrum for GSO systems. The 1610-1626.5/2483.5-2500 MHz frequencies are the only frequencies exclusively allocated for LEO MSS. In contrast, GSO MSS has previously been assigned 28 MHz, and has future access to other MSS bands. With limited spectrum available for LEO MSS, it is even more important that GSO coordination issues not be permitted to further reduce the band capacity.

20/ Private investment is an important means of narrowing the gap in telephone service between industrialized and developing countries that should be encouraged. See, e.g., Report of the Independent Commission for World-Wide Telecommunication Development, December 1984.

AMSC currently holds an exclusive license to use 28 MHz of L-band spectrum for a GSO MSS System (1545-1559/1646.5-1660.5 MHz) and has an application pending to use an additional 28 MHz of L-band spectrum in the maritime band (1530-1544/1626.5-1645.5 MHz). It filed an application in the 2 GHz band through a subsidiary for two satellites in April 1994 to provide MSS, and has an interest in another application pending for a digital audio radio satellite system.

This attempted warehousing of spectrum by AMSC, which has not yet launched its first satellite, provides an additional justification for limiting the subject band to new LEO systems and operators. Under long-standing policies designed to foster new entrants and competition, the Commission can and should authorize new entrants and services over an existing satellite licensee seeking unneeded expansion capacity.[21/]

Given the limited spectrum available for LEO MSS, the Commission should exclude GSO systems, and dismiss AMSC's application, in order to facilitate coordination and encourage the provision of new and publicly beneficial global LEO services.

21/ See, e.g., Domestic Fixed-Satellite Service (Space Station Licensing), 58 R.R. 2d 1267, 1275 (1985). See also Domestic Fixed-Satellite Service (Space Station Licensing), 61 R.R.2d 992 (1986).

C. CDMA Intra-Band Sharing is a Prerequisite

The Commission does not specify requirements for sharing between CDMA systems, although coordination between systems will be necessary to ensure maximum capacity in a sharing environment. A proposal for full-band sharing has been developed and previously submitted in this proceeding in the negotiated rulemaking with Ellipsat's participation.

Ellipsat's support for the Commission's proposed sharing plan is contingent upon an intra-service coordination requirement and the agreement of all CDMA parties to modify their system designs as necessary to ensure full-band sharing in the CDMA band segment. A prerequisite for adoption of the sharing plan is an intra-band coordination requirement, along the lines proposed in the negotiated rulemaking, applicable to all CDMA systems operating in the assigned band. Each system must operate in accordance with agreed-upon levels for PFD, transmitted power from the ground and polarization code families.

Full-band sharing by the CDMA systems is feasible. While Ellipsat is confident that the CDMA systems can coordinate, the Commission should adopt a rule requiring intra-service coordination, which provides flexibility to the CDMA licensees. The Commission should also adopt baseline criteria, compliance with which will be deemed to satisfy the coordination requirement. This will ensure that the coordination process will

not be unreasonably used to delay system implementation by a competitor.

Ellipsat recommends that an industry group, consisting of the CDMA licensees, form an MSS CDMA Sharing Coordination Committee for the purpose of establishing and maintaining technical sharing parameters for facilitating efficient CDMA MSS band sharing in the L, S, and feeder link bands. Ellipsat also recommends that the FCC establish interim forward and return system power density sharing parameters of the CDMA systems in the L and S bands, as a minimum, for use until the CDMA Sharing Coordination Committee can establish technical sharing parameters. Such interim parameters will avoid delays in initiating service as a consequence of delays in achieving a coordinated agreement among the CDMA MSS systems.

Ellipsat further recommends that the interim CDMA forward downlink (S-Band) power flux density limit be set at -142 dBw per 4 kilohertz per square meter per satellite and at -1039 dBw per 4 kilohertz per square meter totaled over all satellites within any one MSS CDMA system, measured at any point in any area served by the CDMA MSS system. Ellipsat also recommends adoption of corresponding limits on radiated uplink power in terms of total power density radiated per unit area (level to be resolved).

D. Sufficient Feeder Link Spectrum is Critical

The Commission expects to identify sufficient spectrum within the 27.5-29.5 GHz band for uplink feeder link transmissions in a related rulemaking,[22/] with corresponding downlink frequencies at 18.1-20.2 GHz.[23/] The Commission, acknowledges, however, that feeder links below 15 GHz, and particularly at 5 GHz, are an integral part of several system proposals and, if not available, would require significant design changes.[24/] Nevertheless, the Commission indicates its unwillingness to allow the uncertain availability of these bands to delay the licensing and implementation of MSS Above 1 GHz systems. The Commission has thus put applicants on notice that they may be required to modify their system designs if they wish to go forward.

Ellipsat has reviewed the available feeder link options and urges the FCC to pursue vigorously frequencies below 15 GHz for feeder links. The use of the Ka-band for feeder links is extremely problematic. In fact, operation of feeder links above 15 GHz has a significant impact on satellite weight, cost, power and service availability (i.e., rain outages). The cost of modifying system design to use feeder links above 15 GHz is

---

22/ Second Notice of Proposed Rulemaking, CC Docket No. 92-297, 9 FCC Rcd 1394, released February 11, 1994.

23/ Notice ¶ 77.

24/ Id.

prohibitive, would ultimately raise cost of service to the public, and place a disproportionate burden on system designs which rely on multiple ground switching networks (in contrast to inter-satellite links). There is no equipment currently available in the Ka-band. In addition, there is no certainty that the Ka-band will be available or that sharing will be feasible given the proposed LMDS use and new satellite proposals, i.e., Teledesic.

Ellipsat estimates that 500 MHz of spectrum, in each direction, will be required to support feeder links. Ellipsat is developing and will submit suitable proposals as to appropriate feeder link bands.[25/] Ellipsat also encourages the Commission to explore issues relating to international coordination of and protection for LEO system feeder links, and agrees with the suggestion of the Negotiated Rulemaking Committee as to limitations on RR 2613.[26/]

25/ The Commission has indicated that possible options include 6425-6725 MHz for uplinks and 3600-3700/10.95-11.20/ 11.45-11.70 MHz for downlinks. Notice at ¶ 75, n.116.

26/ See Notice at ¶ 73. A LEO system should not be required to terminate feeder link operations unless (1) the affected administrations reach agreement as to a level of accepted interference, (2) the LEO system is operating in excess of these levels, and (3) the excess interference is caused by the LEO satellite's failure to maintain sufficient angular separation between the satellites. See also Committee Report at 29.

E. The Full S-Band Spectrum Must Be Available to All CDMA Systems For Downlinks

In the Notice, the Commission "propose[s] to consider appropriate downlink frequencies for CDMA systems when those systems are licensed."[27/] The implication is that the FCC will not exclusively assign the full S-band spectrum to the CDMA systems and the assigned spectrum may be less than the full 16.5 MHz depending upon how many systems are licensed.

Although not entirely clear on this point, the Notice seems to suggest that a maximum of 11.35 MHz of S-band spectrum will be available for CDMA downlinks. This means that 5.15 MHz would not be assigned to the CDMA systems. It also implies that, if fewer than four CDMA systems are authorized, the S-band spectrum will be reduced proportionately.

Ellipsat urges the FCC to clarify its intentions with respect to the S-band downlink spectrum. Ellipsat strongly opposes any efforts to reduce the amount of available S-band spectrum for downlinks. The straightened conditions of the L-band need not and should not be repeated in the S-band. The entire S-band (2483.5-2500 MHz) should be made available for LEO MSS downlinks regardless of the number of systems. Licensees need the certainty that spectrum will be available in order to move forward with system design. In addition, availability of downlink spectrum has an impact on system capacity. There does

---

27/ Notice at ¶ 37.

not seem to be a compelling reason at this point to restrict use of the S-band spectrum in the proposed manner.

F. The Commission Should Provide for Reassignment of Unused FDMA/TDMA Spectrum

In the Notice, the Commission proposes to reassign 3.1 MHz of spectrum (at 1618.25-1621.35 MHz) in the event that only one CDMA system is proceeding. The FCC intends to make this determination after one year and at subsequent implementation milestones.

Ellipsat is not opposed to a reassignment mechanism. The Commission should preserve the flexibility to re-assign unused spectrum to systems that are being successfully implemented and need room to expand. However, to be acceptable and equitable, the FCC's proposal must authorize reassignment of unused FDMA/TDMA spectrum.

The Commission should also consider possible circumstances which may limit the useful CDMA spectrum or delay system implementation before reassigning CDMA spectrum. The Commission must make appropriate provisions for these and other circumstances beyond the licensees' control.

At a minimum, the Commission should provide that CDMA systems will be allowed to seek reassignment of the FDMA/TDMA spectrum, for CDMA use, if the FDMA/TDMA system fails to meet its implementation milestones.

G. Bi-Directional Operation Must Be Limited to FDMA/TDMA Spectrum

Through an apparent oversight, proposed Rule 25.202(a)(4) provides that 1613.8-1626.5 MHz is available for a (secondary) satellite-to-user link. This is inconsistent with the Commission's proposal to confine FDMA/TDMA systems to the 1621.35-1626.5 MHz band. In previous filings, Ellipsat and the other CDMA systems have discussed, in great detail, the reasons why bi-directional operation precludes sharing between the systems.[28/] The FCC must clarify that secondary downlink operation will be limited to 1621.35-1626.5 MHz (or whatever frequencies are ultimately assigned for FDMA/TDMA use) and that FDMA/TDMA downlinks will not be authorized in the CDMA band segment.

IV. THE COMMISSION SHOULD NOT MANDATE A SPECIFIC MARKET APPROACH

In the Notice, the Commission proposes to adopt a number of eligibility criteria that effectively mandate a specific market and technical approach. While the ELLIPSOt system is fully capable of meeting the proposed requirements, including the global and U.S. coverage requirements, it asks whether these standards may not compromise the ability of the LEO systems to

---

28/ See, e.g., Reply Comments of Ellipsat Corporation in Gen. Docket No. 89-554, January 8, 1991 at 3.

implement individual market strategies. From a policy standpoint, the Commission should allow each licensee to analyze the relevant global market and develop a market/technical approach that meets marketplace demands as each perceives that demand, without government intrusion.[29/] At this stage of the development of the LEO systems, we would argue that the public interest calls for diversity and risk-taking on the part of investors.

A. Global Coverage

In the Notice, the Commission proposes to require each MSS Above 1 GHz applicant to demonstrate that its proposed system is "capable of providing mobile satellite services to all areas of the world, with the exception of the polar regions, at least 75 percent of every 24-hour period, i.e., that at least one satellite will be visible above the horizon at an elevation angle of at least 5° for at least 18 hours each day."[30/]

Ellipsat agrees with the Commission that global coverage is a desirable objective and that the LEOs' capability of providing global service is important for fostering social and economic

---

29/ This is consistent with the Commission's intentions. See Notice at ¶ 11 ("when possible, we prefer to leave spacecraft design decisions to the space station licensees because the licensees are in a better position to determine how to tailor their systems to meet the particular needs of their customer base.")

30/ See Proposed Rule 25.143(b)(2)(ii).

benefits in the U.S. and throughout the world. As the Commission correctly recognizes, LEO systems are inherently global, in contrast to GSO satellites. As discussed above in Section III.B, global coverage will potentially enhance U.S. global leadership and expand markets for U.S. products and services. LEO systems may also offer assistance to developing countries by providing access to a technologically advanced telecommunications and information network.[31/]

The ELLIPSO™ system can and will meet whatever global coverage requirement may be adopted.[32/] Ellipsat questions, however, whether the Commission needs to specify a particular visibility standard in the rules which (1) is not tailored to meet the Commission's objectives (i.e., provision of actual service); and (2) may embroil the Commission in scrutinizing and passing judgment on specific system designs. The Commission could achieve its objectives merely by requiring systems to

---

31/ See Notice at ¶ 21.

32/ In this regard, Ellipsat strongly objects to the Commission's erroneous suggestion (Notice at ¶ 23) that a LEO satellite constellation operating in a highly elliptical orbit may not be capable of serving all areas of the world. Elliptical orbits have been previously used by the Russian Molniya system, among others, and are a highly innovative and technologically advanced orbital configuration. Ellipsat's specification of an elliptical orbit in its initial application was intended to maximize coverage of the U.S. However, the ELLIPSO™ system, as noted, has been designed to grow with and meet market demand, and is capable of providing global coverage in a cost-effective and efficient manner. See discussion of elliptical orbits at note 7, supra.

demonstrate the capability to provide mobile satellite services to all areas of the world -- excepting polar regions -- at least 75% of every 24-hour period. The Commission should avoid specific criteria which may limit operators' flexibility to identify and serve market demand.

If the Commission decides nonetheless to adopt a specific visibility standard, it must clarify the meaning of the proposed Rule. In the text of the Notice, the Commission indicates that satellite visibility must be provided at latitudes less than 80°.[33/] This latitude requirement has not been incorporated in the text of the rule, so its status is unclear.

If this 80° latitude standard is intended as the benchmark, Ellipsat objects to the propriety of this standard as a measure of global coverage. Consistent with the Commission's objective of requiring global service capability, the standard should be based on a reasonable measure of service availability to populated areas. The Commission expressly excludes polar regions.[34/]

Yet, the 80° latitude standard will mandate service to unpopulated polar regions.[35/] A more appropriate standard would

---

33/ Notice at ¶ 23.

34/ Id.

35/ ELLIPSO™ can meet this standard by adding one or more polar satellites to its constellation. The expense of additional satellites is unjustified, however, given the lack of

Footnote continued on next page.

be 55° southern latitude (i.e., southern tip of South America) and 75° northern latitude (i.e., northern tip of Alaska). These parameters would encompass any region where there is likely to be a demand for service.

Ellipsat also questions the selection of elevation angles. ELLIPSO™ can easily meet the proposed 5° elevation angle standard. In fact, ELLIPSO™ typically achieves elevation angles in excess of 15°. However, elevation angles greater than 5° are needed if the Commission's objective is to mandate a minimum service level. If the FCC requires specific elevation angles, it should adopt a standard that actually ensures a minimal satisfactory quality of service where there is a market for that service. Ellipsat proposes a 15° elevation angle standard for global coverage, 18 hours per day excluding polar regions (i.e., latitudes less than 55° southern latitude and 75° northern latitude).

B. U.S. Coverage

Under proposed Rule 25.143(b)(2)(iii), each applicant must also demonstrate that the proposed system is capable of providing voice service on a continuous basis throughout the United States, i.e., that at least one satellite will be visible above the

---

Footnote continued from previous page.

> population or demand in the polar regions, and the Commission's apparent intention to exclude polar regions from the coverage standard.

horizon at an elevation angle of at least 5° at all times at any point within the United States.

Ellipsat agrees with the Commission that licensees should be capable of providing U.S. coverage to all fifty states. ELLIPSO™ is fully capable of meeting the proposed U.S. coverage standards. However, the Commission should require a higher level of service in the U.S. than will be provided with 5° elevation angles. The elevation angle requirement should be far greater than 5° to ensure that genuine quality service will be provided. Ellipsat proposes a 24-hour 25° elevation angle as the standard for U.S. coverage.

C. Minimum Channel and Efficiency Requirements

The Commission requests comment on whether it should adopt a rule requiring applicants to maintain or operate simultaneously, in the United States, a minimum number of channels for mobile services as a means of achieving maximum efficiency.[36/] Minimum channel or efficiency requirements are unnecessary, and should not be adopted.

In a new and commercially unproven service like the LEOs, it is not clear what channel usage will develop. Systems should be permitted flexibility to develop markets and implement their respective business plans, without the imposition of artificial

---

36/ Notice at ¶ 25.

channel or efficiency requirements. The Commission properly reached this conclusion in the Little LEO proceeding.[37/]

There is little or no public interest reason for minimum channel or efficiency requirements. Financial markets will ensure that inefficient systems are not financed. Moreover, all systems can be accommodated, so there is no concern that spectrum will be warehoused. CDMA full-band sharing will ensure that the spectrum is shared dynamically among CDMA systems.

D. Financial Standards

1. The Commission Should Clarify the Proposed Standard

In the Notice, the Commission proposes to adopt the same financial showing that is required in the domestic fixed-

---

37/ Report and Order, CC Docket No. 92-76, 8 FCC Rcd 8450, released Nov. 16, 1993 at ¶ 23. The Commission rejected a proposed standard that would require system operators to make service available in the United States at least 75% of the time. The Commission said:

> We have no experience with commercial NVNG MSS Systems . . . Without experience, we do not know which technologies will even prove workable, much less preferable, as different services attempt to co-exist within this particular spectrum. Further, we do not know how consumer demand for services will evolve in the NVNG MSS. In any event, it is not "efficient" to mandate at this time either use of a technology that may not work, or a level of available service that may not be supported by the market.

satellite service, on the grounds that "a license award to one applicant could consequently preclude another applicant from implementing its system."[38/] ELLIPSO™ seeks clarification as to the Commission's intentions with respect to the manner in which it will apply the domsat standard here. This clarification is important given the internal inconsistency in the Notice, which elsewhere concludes that the proposed sharing plan will accommodate up to five LEO systems.[39/]

While the Commission frequently uses the domsat standard in a variety of satellite proceedings, that standard is usually adjusted to fit the specific satellite service involved, the maturity of the technology and the certainty of the prospective market.[40/] Ellipsat therefore assumes that the Commission intended to act consistently with its prior approach to financial standards, which can be characterized as flexible application of the domsat standard tailored to accommodate new services.

The Big LEO service, as the Commission recognizes, is a new and commercially unproven service. While the system operators are optimistic about the potential markets, this industry is

---

38/ Notice at ¶ 27.

39/ Id. at ¶ 32.

40/ See, e.g., Satellite Communications, 104 F.C.C. 2d 650, 663 (1986) ("RDSS Second Report and Order") ("[T]he Commission traditionally has required satellite applicants to demonstrate their financial qualifications . . . . This general principle, however, must be considered in the context of the specific service to be provided.")

still in its infancy. This means that bank loans will be difficult to obtain as first stage financing. In addition, all of the Big LEO systems will be very expensive to develop (estimates range from $700 million for ELLIPSO™, to $3.4 billion for Iridium) in contrast to other satellite and telecommunications systems previously licensed by the Commission.

The significant cost of the LEO systems and their global scale mean that all of the systems will need to enter into strategic partnerships, often with non-U.S. companies, in order to finance and implement the systems worldwide. These unique features of the Big LEO service underscore the inappropriateness of merely adopting the domsat standard, intended for a mature domestic industry, in this context.

It is instructive to recall that in the early days of the domestic fixed-satellite service, the Commission allowed applicants to meet a more flexible qualification standard based on Ultravision Broadcasting, 1 F.C.C. 2d 544 (1965), which merely required "proof that adequate funds are available and committed" or "a convincing evidentiary showing that the available and committed funds will be supplemented by sufficient advertising or other revenue."[41/] Only when the domestic satellite industry matured, and the Commission was faced with a shortage of orbital locations, did a strict financial standard emerge. The

---

41/ 1 F.C.C. 2d at 547. See also Domestic Communication-Satellite Facilities, Report and Order, 22 F.C.C. 2d 86 (1970).

justification for a strict financial test in 1985, when first articulated, was that not all applicants could be accommodated in the available orbital locations.[42/] In contrast, all of the LEO applicants can be accommodated under the Commission's sharing plan.[43/]

In other satellite proceedings, the Commission has repeatedly demonstrated its willingness to adapt the domsat standard to the particular factual context. In the case of the International Separate Satellite Systems, for example, the Commission established a two-step financial showing to accommodate the international coordination process that initially required only a showing of financial "preparedness."[44/] Similarly, the Commission allowed RDSS applicants to obtain financing for their project in stages, demonstrating "financial preparedness" upon licensing and adherence to defined progress milestones.[45/]

Directly relevant precedent can also be found in the Little LEO proceeding. The Commission there stated that examination of

---

42/ Domestic Fixed-Satellite Service (Space Station Licensing), 58 R.R. 2d 1267 (1985).

43/ See Notice at ¶ 32.

44/ See, e.g., Establishment of Satellite Systems Providing International Communications, 101 F.C.C. 2d 1046, 1164 (1985).

45/ RDSS Second Report and Order, 104 F.C.C. 2d at 664. See also Direct Broadcast Satellites, 90 F.C.C. 2d 676, 719 (1982) (Imposed diligence requirement in lieu of stringent financial showings.)

financial qualifications "must be considered in the context of the specific service to be provided."[46/] With respect to the Little LEOs, the Commission concluded:

> NVNG MSS is a new, innovative and as yet commercially unproven service. Applicants without substantial internal assets may have difficulty obtaining the financing necessary to construct, launch and operate a large system years before that system is to be operational.[47/]

In the Little LEO proceeding, the Commission required each applicant to meet the domsat standard with respect to a minimum two-satellite system, not the entire system.[48/] According to the Commission, this standard "will assure the public of the availability of certain service options" while providing the licensee with flexibility to procure additional financing. The Commission found that sufficient service would be offered by a two-satellite system to "promote the public interest in granting licenses to financially qualified applicants."[49/]

46/ Notice of Proposed Rulemaking, CC Docket No. 92-76, FCC 93-28, released February 10, 1993 at ¶ 17.

47/ Id.

48/ Id. at ¶ 18. See also Report and Order, CC Docket 92-76, 8 FCC Rcd 8450, 8451-52 (1993).

49/ In the Little LEO proceeding, the Commission found that a two-satellite LEO constellation could provide 10% communications capability within U.S. borders. This would mean that a Little LEO satellite would be domestically accessible approximately every one to two hours for a period of between five and ten minutes. Notice of Proposed Rulemaking, CC Docket No. 92-76, supra at n.32.

Based on this precedent, the Commission must clarify how it intends to apply the domsat standard in the unique context of the Big LEOs, which like international private satellite systems, are subject to international coordination and licensing, and, like DBS, RDSS and the NVNG MSS, are a new and commercially unproven service. Moreover, assuming adoption of the proposed sharing plan, all of the LEO applicants can be accommodated and the rationale for strict qualifications (i.e., not allowing an unqualified applicant to use a scarce resource at the expense of denying another) is therefore absent. In this factual context, the domsat standard is inappropriate and the Commission should clarify how it intends to apply that standard, consistent with prior case law, in this new satellite service.

2. Financial Standards Should Accommodate Diverse Market Strategies

The underlying objective of the proposed financial standard is to measure the applicant's ability and intention to proceed. Consistent with this objective, any financial standard adopted by the Commission should accommodate different market approaches and strategies.

As discussed above, ELLIPSO's unique constellation design will permit an early commercial service with as few as eight satellites. This progressive deployment makes sense from a financial and market standpoint, and has attracted substantial investor interest. The investment community is receptive to this

approach which allows an opportunity for assessing the technology and market demand in an operating environment.[50/] Progressive deployment also allows the system operator to use operating revenues and income to finance further system expansion and to provide a basis for future public offerings.

Three options that make sense, in light of the Commission's objectives and prior precedent involving new satellite services, are (1) a financial showing under the domsat standard for a portion of the system required to introduce commercial service (cf. NVNG MSS);[51/] (2) a showing of financial preparedness, including reliance on projected revenues and future public offerings, in conjunction with defined progress milestones (cf. RDSS and international satellite systems); and/or (3) strict milestone schedules which require commercial service to be initiated within four years (cf. DBS). These options are consistent with previous Commission and court decisions and will provide each system with the flexibility to structure ownership

---

50/ See Declaration of Davinder Sethi, Exhibit A hereto, which provides an expert opinion that progressive deployment "is the only sensible approach" in a new and commercially unproven service.

51/ In the little LEO proceeding 10% communication capability within U.S. borders was defined as sufficient service on which to base a financial showing.